United States Environmental Protection Agency
The Modernized STORET
"Ambient Water Quality and Biological Data and Information System"

Robert King, STORET Manager
US EPA 513 South 24th St., Arlington, VA 22202

Abstract

To meet the data and information needs of Place-Based/Community Focused Ecosystem Protection, the EPA's Office of Water has re-engineered its primary ambient water quality and biological monitoring data systems (STORET, BIOS, and ODES) into a client server architecture featuring local ownership and control as well as a national data warehouse accessible via the Internet.

System Design:

The new STORET is a substantial improvement over the legacy systems. In addition to the ability to store water, sediment, and tissue chemistry data, the new system provides the ability to store biological community and habitat assessment information. The new system also provides for the storage of metadata (descriptive data about data) ensuring that all future STORET data are of documented quality thus allowing the sharing of data with greater confidence.

The new STORET is designed as a client server data base with an option to function as a stand-alone system. Client workstations will execute STORET under the Windows 95/98/NT environment while connected to the ORACLE relational data base server running on any of its supported platforms. The STORET stand-alone system requires the Windows 95/98/NT operating system together with the Personal ORACLE relational data base product.

Nationally, copies of STORET data will be assembled in an EPA-maintained data warehouse and made available in read only form to the public through the Internet.

Internet access will include map based query with zoom and pan functionality. Data may be downloaded either in pre-formatted reports or delimited ASCII files. Full capability is expected by spring 2000.

Schedule:

STORET Production v1.1 was released in March 1999.

For additional information contact STORET User Support at (800) 424-9067 or STORET@epa.gov.

Appalachian Rivers II

July 28, 1999

STORET

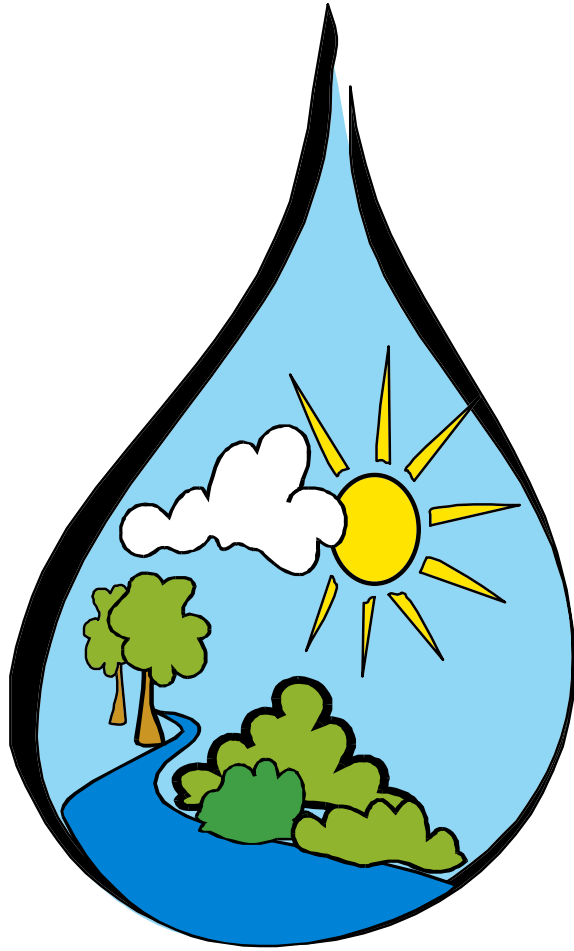# Modernization

National Water Program

New Program Focus

- Watershed-Based
- Environmental Results Reporting
- Citizen Involvement

New Technology

- National Data Warehouse
- Public Access-Internet

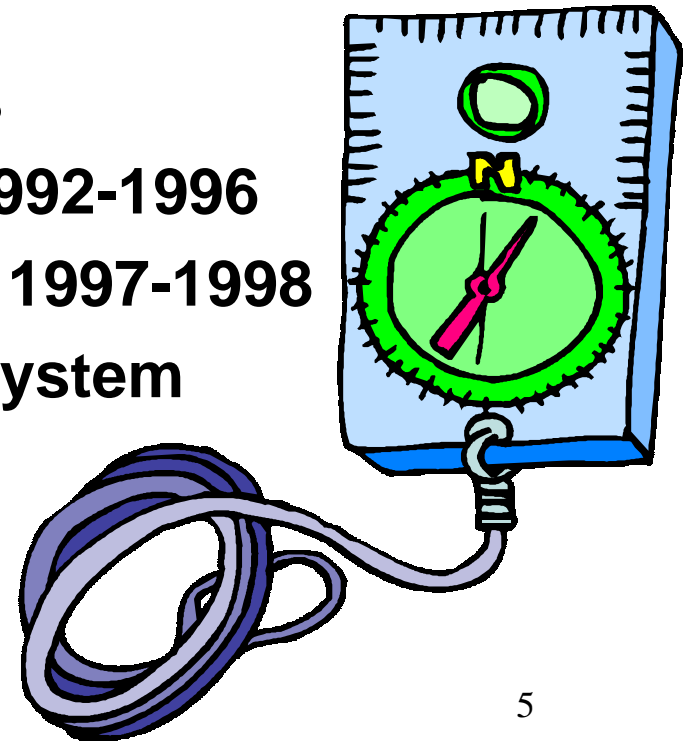# STORET

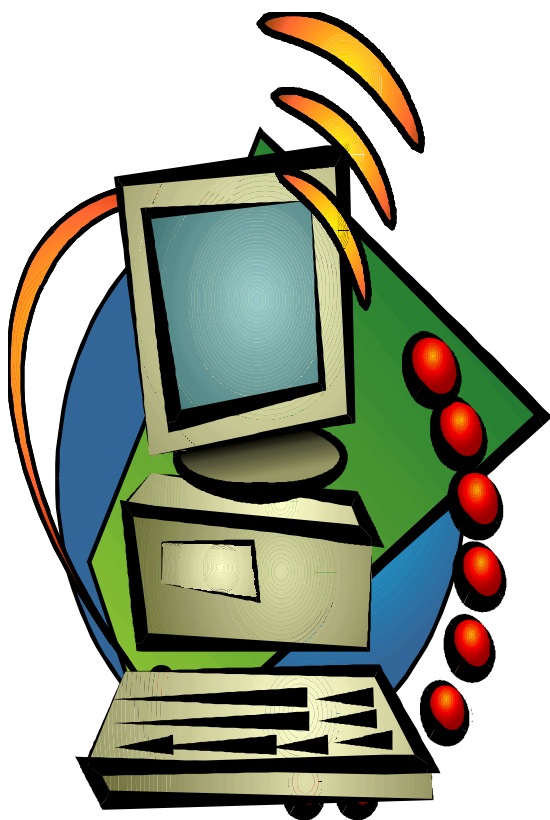Ambient Water Quality and Biological Data

Clients

- Citizen Volunteers
- Watershed Managers
- State Environmental & Health Organizations
- Other Federal Agencies, USGS etc.

Customer Built - Customer Owned

- **Requirements Gathering 1991-92**
  - **Links to GIS**
  - **Data of Documented Quality**
- **User Validation of Requirements**
  - **Four National Conferences, 1992-1996**
- **Prototype Testing by 200 Users, 1997-1998**
  - **Feedback Incorporated into System**
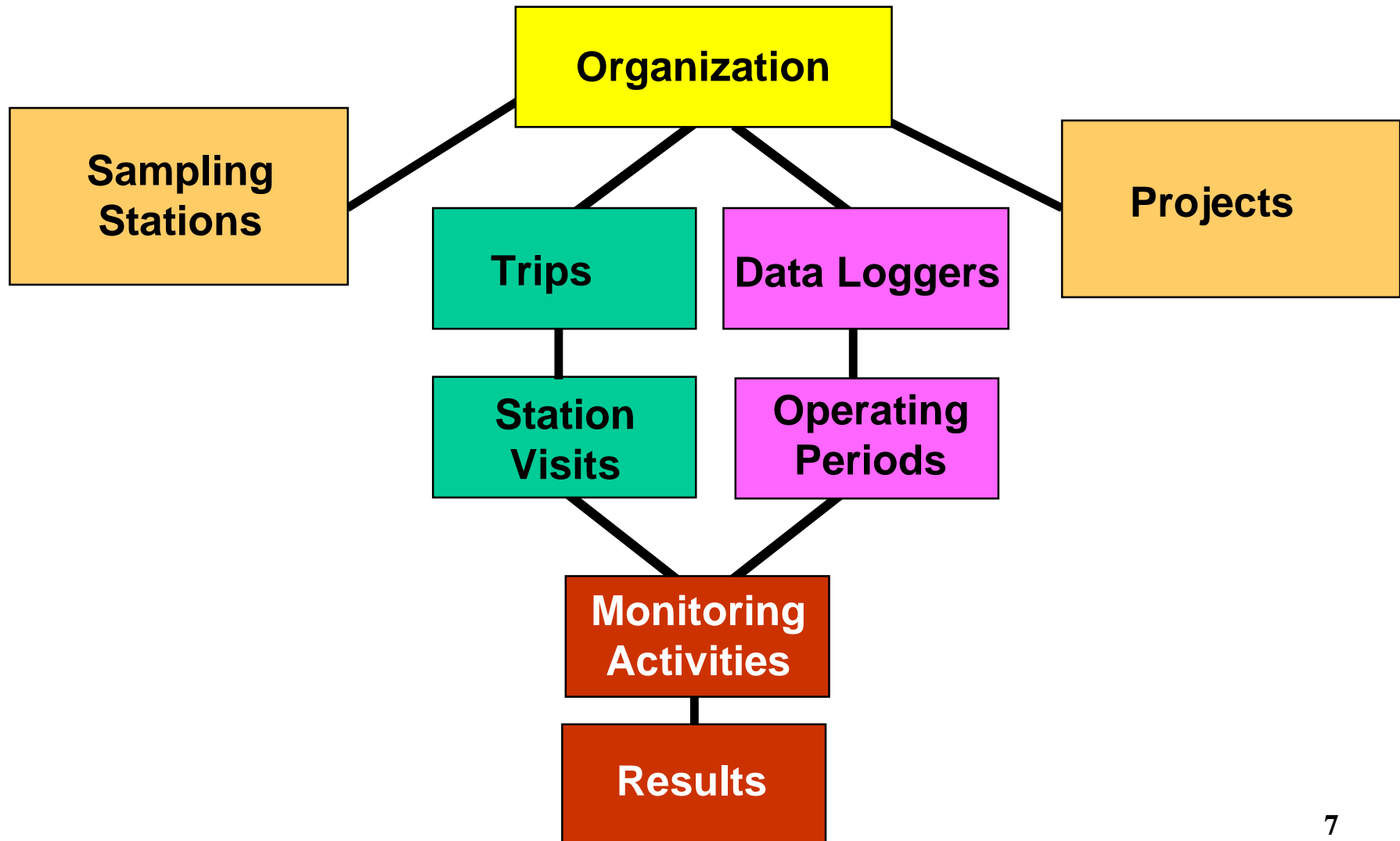
STORET v1.1

Features
- – Data of Documented Quality
- – Graphical User Interface
- – Data Standards for Data Sharing

Implementation
- – Scaleable - Watershed to National
  - • Locally Owned and Operated
  - • EPA Maintained

STORET
Mirrors the Business of Monitoring

Organization

Sampling Stations

Projects

Trips

Data Loggers

Station Visits

Operating Periods

Monitoring Activities

Results

Monitoring Activities

Samples
- Routine
- Field Replicate
- Depletion Replicate
- Created from Sample
  - Composite- with Parents
  - Sample from Sample
- Composite- W/O Parents
- Integrated Time Series
- Integrated Flow Proportioned
- Integrated Horizontal Profile
- Integrated Vertical Profile

Field Measurement/Observations
- Replicate Measurement
- Habitat Evaluation
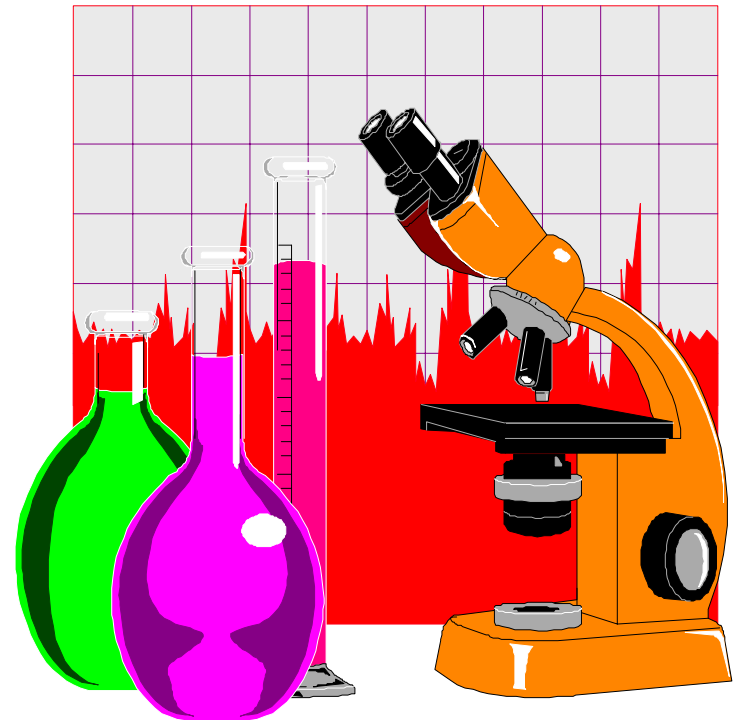- Observation
- Measurement

Sampling Profiles

Sample Medium
- Air
- Bottom Sediment
- Soil
- Water
- Biological
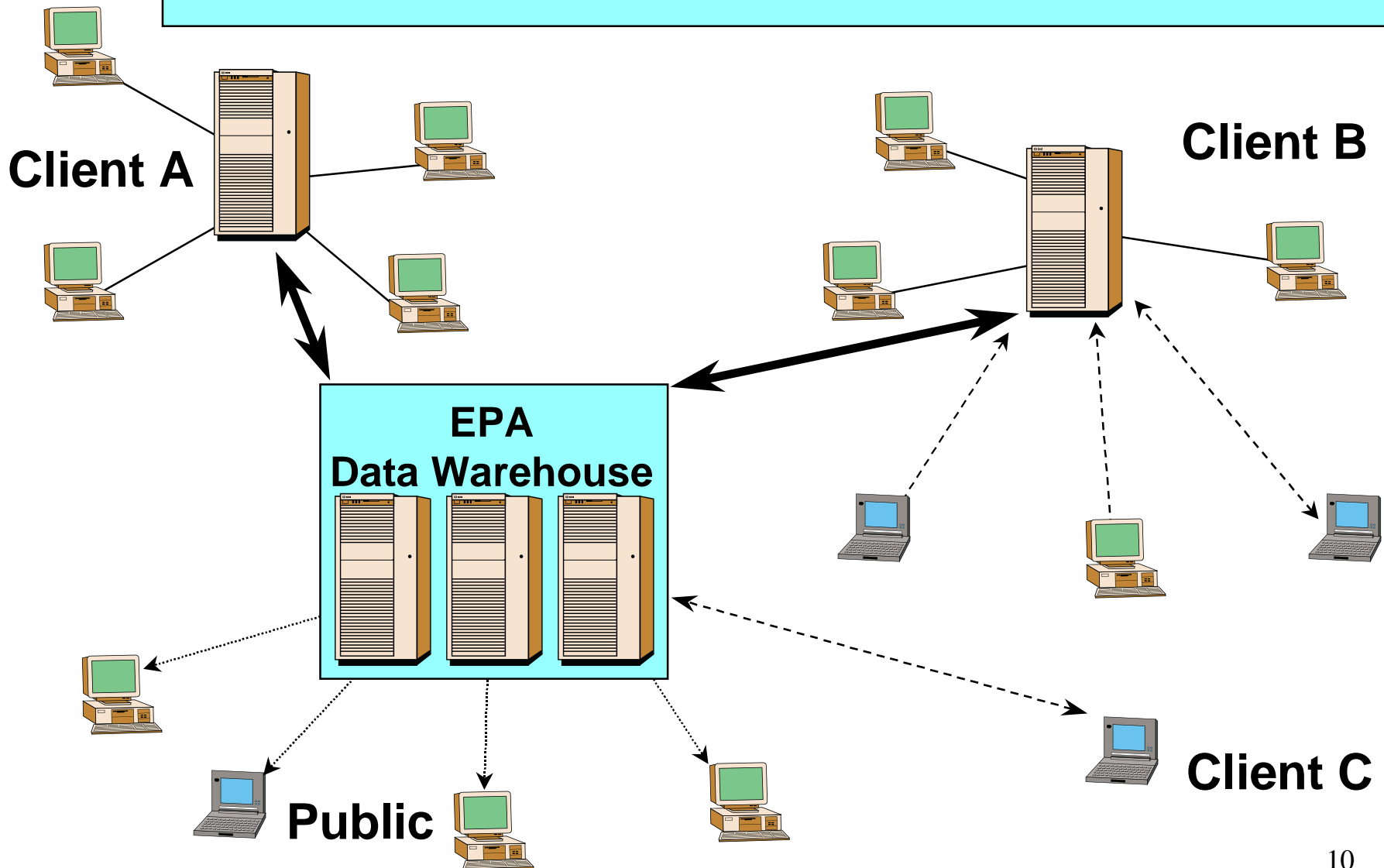 - Individual
    - Subject Taxa
  - Tissue
    - Subject Taxa
    - Bio- Part
  - Species Abundance
    - Aquatic Vegetation
    - Terrestrial Plants
    - Benthic Macroinverts
    - Birds
    - Reptiles
    - Amphibians
    - Bacteria/Viral
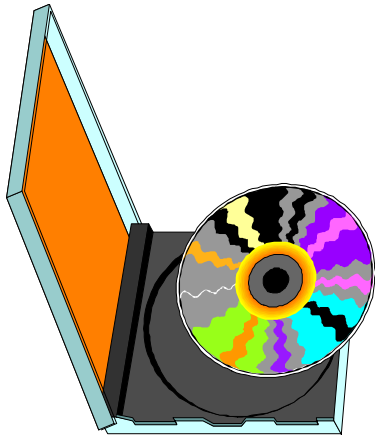   - Phytoplankton/Zooplankton
    - Fish/Nekton
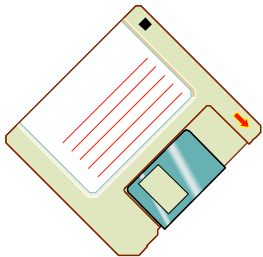
Medium

Intent

Community

National Architecture

STORET v1.1
Package

STORET v1.1 CD-ROM

– Installation for complete Stand-alone

– Installation for Client

– Installation for Server

– Installation for Reports

Activation Disk

– Installation of your unique Organization code(s) into the data base.

STORET v1.1 Reguirements

- **Stand-alone Installation**
  - STORET v1.1 Package
  - Personal ORACLE 7.3.3/7.3.4
- **Client Server Installation**
  - STORET v1.1 Package
  - Server ORACLE 7.x and up